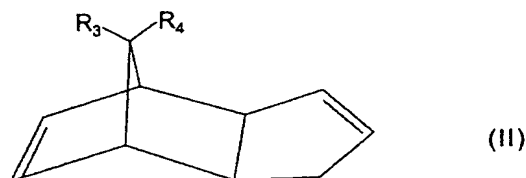
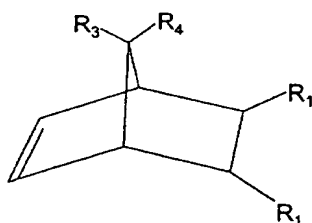
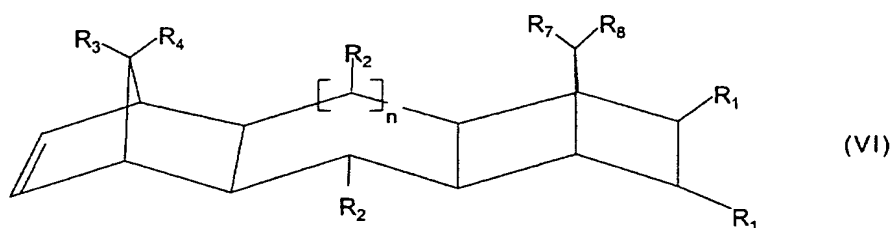
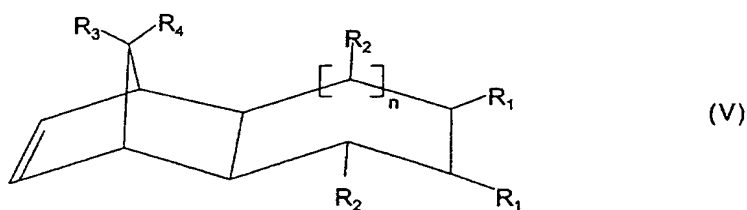
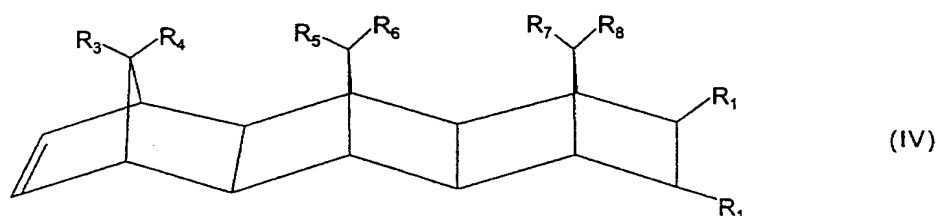
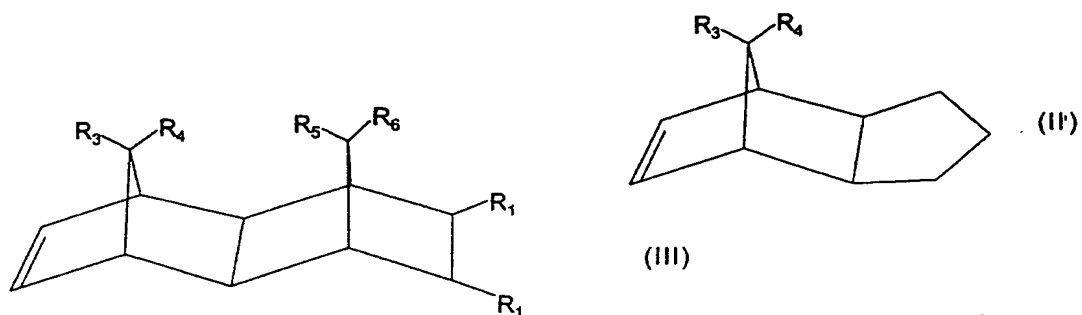


## Patent claims

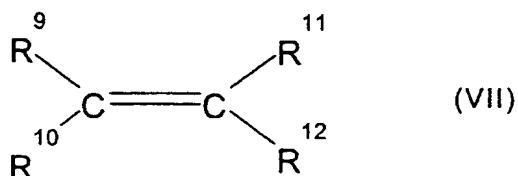
1. A multilayer polyolefin film composed of at least three layers, comprising I) a) a core layer A functioning as base layer and composed of at least one amorphous polyolefin and b) on the two sides, outer layers B and C composed of a mixture composed of polypropylene and of at least one amorphous polyolefin, or II) a) a core layer A composed of a mixture of at least one semicrystalline polyolefin and 5.0% by weight or more of at least one amorphous polyolefin, and b) two outer layers B and C which are identical or different, composed of a semicrystalline polyolefin and/or of a mixture composed of polypropylene and of at least one amorphous polyolefin.
2. The film as claimed in claim 1, wherein the amorphous polyolefin is a cycloolefin copolymer and/or a cycloolefinic polymer.
3. The film as claimed in claim 1 or 2, wherein the amorphous polyolefin is a copolymer composed of ethylene and/or of an  $\alpha$ -olefin and of a cyclic, bicyclic, or polycyclic olefin.
4. The film as claimed in one or more of claims 1 to 3, wherein the amorphous polyolefin derives from at least one cyclic or polycyclic olefin of the following formulae I to VI





- 5 where  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ , and  $R^8$  are identical or different and are a hydrogen atom or a  $C_1$ - $C_{20}$ -hydrocarbon radical, such as a linear or branched  $C_1$ - $C_8$ -alkyl radical,  $C_6$ - $C_{18}$ -aryl radical, or  $C_7$ - $C_{20}$ -alkylenearyl radical, or a cyclic or acyclic  $C_2$ - $C_{20}$ -alkenyl radical, or form a saturated, unsaturated, or aromatic ring, where identical radicals  $R^1$  to  $R^8$  have a
- 10 different meaning in the various formulae I to VI, and where  $n$  assumes values from 0 to 5,
- and

from 0 to 99.9% by weight, preferably from 0.1 to 99.9% by weight, based on the total weight of the cycloolefin copolymer, of polymerized units which derive from one or more acyclic olefins of the formula VII



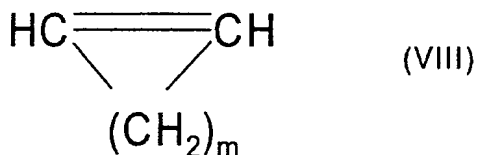
5

where  $\text{R}^9$ ,  $\text{R}^{10}$ ,  $\text{R}^{11}$ , and  $\text{R}^{12}$  are identical or different and are a hydrogen atom, a linear, branched, saturated or unsaturated  $\text{C}_1$ - $\text{C}_{20}$ -hydrocarbon radical, such as a  $\text{C}_1$ - $\text{C}_8$ -alkyl radical or a  $\text{C}_6$ - $\text{C}_{18}$ -aryl radical.

10

5. The film as claimed in claim 4, wherein the amorphous polyolefin is a cycloolefin copolymer which contains, based on its total weight, from 0 to 45% by weight of polymerized units which derive from one or more monocyclic olefins of the formula VIII

15



where  $m$  is a number from 2 to 10.

20 6. The film as claimed in one or more of claims 1 to 5, wherein the amorphous polyolefin is a copolymer composed of ethylene and norbornene.

25 7. The film as claimed in one or more of claims 1 to 6, wherein the proportion of amorphous polyolefin in a mixture composed of at least one semicrystalline polyolefin and of at least one amorphous polyolefin is preferably from 10 to 50% by weight, in particular from 15 to 40% by weight.

8. The film as claimed in one or more of claims 1 to 7, wherein the amorphous polyolefin has a glass transition temperature  $T_g$  in the range from 60 to 300°C, preferably from 70 to 250°C, in particular from 80 to 200°C, the Vicat softening point  $T_V$  (VST/B/120) is in the range from 70 to 200°C, preferably from 80 to 180°C, and the amorphous polyolefin has an average molecular weight  $M_w$  in the range from 1000 to 500 000, preferably from 1500 to 250 000, in particular from 3000 to 150 000.
9. The film as claimed in one or more of claims 1 to 8, wherein the thickness of the film is from 50 to 300  $\mu\text{m}$ , preferably from 75 to 250  $\mu\text{m}$ , and the thicknesses of the outer layers make up from 2.5 to 90% of the entire structure.
10. The film as claimed in one or more of claims 1 to 9, wherein the semicrystalline polyolefin present comprises a polymer composed of ethylene or of  $\alpha$ -olefins or comprises copolymers of these.
11. A process for producing a multilayer polyolefin film composed of at least three layers, comprising I) a) a core layer A functioning as base layer and composed of at least one amorphous polyolefin and b) on the two sides, outer layers B and C composed of a mixture composed of polypropylene and of at least one amorphous polyolefin, or II) a) a core layer A composed of a mixture of at least one semicrystalline polyolefin and 5.0% by weight or more of at least one amorphous polyolefin, and b) two outer layers B and C which are identical or different, composed of a semicrystalline polyolefin and/or of a mixture composed of polypropylene and of at least one amorphous polyolefin, which comprises melting the film-forming polymers and/or polymer mixtures in an extruder, then extruding the melt(s) through a flat-film die, drawing off the resultant film on one or more rolls, whereupon it cools and solidifies, or extruding the melt(s) emerging from the extruder via an annular die, whereupon the melt(s) emerging from the extruder is/are extruded through an annular die,

whereupon the resultant film is processed in a blown-film system to give the film, collapsed by way of rolls, and drawn off.

12. The process as claimed in claim 11, wherein the film is, if  
5 appropriate, stretched and/or heat-set and/or surface-treated.

13. The use of the film as claimed in one or more of claims 1 to 10 as thermoplastic packaging film.

10 14. The use as claimed in claim 13 as deep-thermoforming in deep-thermoformed packaging, and for pharmaceutical blister packs.

15 15. Deep-thermoformed packaging or a pharmaceutical blister pack, produced from the multilayer polyolefin film as claimed in one or more of claims 1 to 10.

20 16. A laminated article, encompassing a multilayer polyolefin film as claimed in one or more of claims 1 to 10 with paper and/or cardboard and/or with one or more metal foils, and/or with other films composed of thermoplastic.